empty sarcolemma remaining. Some of these show many nuclei within the sheath; more however show only a moderate increase or no increase in the nuclei. Occasionally centrally placed nuclei or chains of 15 to 30 such nuclei are seen in the fibers. Cross section shows the fibers round or oval, widely separated, and occasional central nuclei. Some of the cross sections of the fibers show splitting into two or more parts, others show the fibrillæ very plainly. Longitudinally different parts of the same fiber show marked difference in diameter, and in the clearness of the cross striation. Very many of the fibers appear distorted and kinked.

The connective tissue between the fibers is only moderately increased in amount; in some places the connective tissue appears to be young and richly cellular, in other places mature and with the usual number of nuclei. A few sharply outlined small masses of apparently lymphoid cells are seen. A few polynuclear leucocytes are present in these masses. There is no evidence of inflammatory reaction about these areas.

The fat is very great in amount and for the most part is in the connective tissue between the muscle fibers. Some small droplets are seen within the muscle fibers, but the amount is strikingly limited.

The walls of the blood vessels appear decidedly thickened. No changes can be detected in the nerves with the hematoxylin-eosin stain. No muscle spindles are found in the sections examined.

The gastrocnemius and soleus muscles show the least involvement, about one half to two thirds of the fibers having disappeared. The changes are very similar to the changes in the splenius colli, only less marked. In these sections, especially in the muscle bundles least involved there is a striking tendency for the fibers to disappear and be replaced by fat in the center of the muscle bundle, the periphery being comparatively normal as far as the disappearance of the fibers and replacement by fat is concerned. Apparently the fibers in the center of the muscle bundles are the first ones attacked by the degenerative process.

Sections of the cord at the first and fifth cervical, the seventh dorsal and third lumbar segments, show no changes in either gray or white matter when stained by the hematoxylin eosin and Weigert-Pal stains. Nissl's stain could not be used as the tissue had not been suitably fixed.

DEMONSTRATION OF A BRAIN SHOWING TUBERCLE IN PONS WHICH CAUSED HEMIPLEGIA ALTERNANS

By Sydney Kuh, M.D.

The patient was a boy two years old when first examined. He was first seen on October 25, 1907. His present trouble began in January of that year with a weakness of the left arm which increased very gradually, until that member had become entirely useless. His family history was negative. He had been born at full term, after a normal labor, and was breast fed. He never learned to walk, but began to talk when about a year old, although he never learned to say more than a few simple words. About April, 1907, the child was taken to a hospital for his paralysis, and while there he is said to have had an attack of both scarlatina and measles. There is no history of vomiting or spasms and nothing suggestive of dimming of vision has been noticed. The course of the disease has been afebrile.

The examination showed a well-developed child, whose intelligence appeared to be normal. His anterior fontanelle had not yet closed entirely, the biparietal diameter of the skull was wide, the lower portion of the sternum sunken. There was paralysis of the right side of the face of the peripheral type, of the right sixth nerve and of associated movements of the eyeballs to the right. Some vertical nystagmus of the right eye. The left arm was markedly paretic, somewhat thinner than the right, slightly spastic. In walking he dragged his left leg, the gait was spastic and there was some spasticity on the right side; there was a Babinski on the left side only; no Kernig. The fundus showed no pathological condition. No incoördination.

The tuberculous opsonic index was taken five times and was found to be 0.65, 1.62, 1.30, 0.86, and 0.57 respectively. The temperature was normal most of the time; occasionally there was a very slight rise, at other times it was slightly subnormal. The pulse rate was about normal. A few days before his death, which occurred on December 19, 1907, he became stuporous and the pulse became rapid and weak. A diagnosis of tubercle of the pons had been made, and the case demonstrated with that diagnosis. Autopsy revealed solitary tubercle in right side of pons, and microscopical examination of the lesion showed typical tubercles with giant cells.

That peculiar law which brings one more cases of the same type brought to Dr. Kuh no less than four cases of crossed hemiplegia in the last two months or so, the last a young man. There was a paralysis of the extremities. A peculiar matter of this case is that in this instance there was a very pronounced optic neuritis. At first the etiology was not quite clear, but a thrombosis was found in the left lower extremity. A very remarkable matter in this second case was that nearly all of the paralysis cleared up in a very short time. After four or five days no paralysis of the right leg was found. The patient died, and toward the end there was practically nothing left except paralysis of the sixth nerve.